

GROUP 4. INSTRUCTOR TRAINING AND QUALIFICATIONS

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We were charged with generating some guidelines for the training and qualifications of LOFT instructors, but before I get into that I think it would be appropriate to address the matter brought up by Dale Cavanagh. When you talk about the number of instructors, the one thing that we discussed early on in our group was that it largely depends on how you have been doing it in the past and whether you have been successful with one mode of operations; be it one instructor or two. By the same token, for those who have been flying airplanes with two crew members as opposed to three, the necessity to have three may not be as strong for them because their operational procedures and personnel have worked that way for years. Considerations like these should be taken into account, and we have tried to be very careful in writing these guidelines so as not to impose any particular airline's opinion of how training should be accomplished in another organization, which is already doing it differently but quite successfully.

Instructor qualifications- Each professional instructor or check airman used in LOFT training course should complete an FAA approved training course in the appropriate aircraft type. Instructors used in such courses need not be type-rated. If an instructor or check airman who is presently not line-qualified is used as a LOFT instructor, he or she should remain current in line-operational procedures by observing operating procedures from the jump seat on three typical line segments per 90 days on the appropriate aircraft type. For definitional purposes, "line qualification" means completion as a flight crew member of at least three typical line segments per 90 days on the appropriate aircraft type. If there is any confusion, "line-qualified" obviously pertains to check airmen.

An instructor utilized to conduct LOFT training should be given a course of training equivalent to that of a line crewman for that type aircraft, and it should include the requirements of FAA Advisory Circular 121-14C, paragraph 11(f), four hours of LOFT training, in lieu of actual aircraft training or line operating experience.

The working group strongly recommends that where LOFT training involves a three-man crew, the individual airline should have the flexibility of conducting the LOFT training with one instructor or check airman. If one instructor or check airman is utilized, he or she must be appropriately trained for all crew positions.

The role of the instructor in LOFT- There has been so much already said in the other group reports, but we see the role of the instructor confined to the following:

- o Preflight briefing;
- o Accurate conduct of a prescribed scenario in a realistic manner;
- o Monitor, record, and assess crew performance for the debriefing;
- o Perform an objective debriefing, utilizing self-critique to its maximum advantage.

Specialized training for LOFT instructors- Instructors and check airmen selected to conduct LOFT exercises should receive training in the concepts and conduct of LOFT. Such training would include but not be limited to:

- o The conduct of the crew briefing and complete familiarity with all preflight procedures, including flight plans, weather reports, minimum equipment lists, aircraft performance data, aircraft loading procedures, etc.
- o Observation and understanding of resource management, including the crew concept and crew coordination.
- o The pacing and selection of items in the LOFT scenario and the introduction of abnormal and emergency procedures or situations.
- o An in-depth understanding of observational, interpersonal, command and leadership skills.
- o Development of his own skills in interacting appropriately with the flight crew during the briefing, the LOFT exercise, and the debriefing.
- o Training in assessment skills with appropriate guidance in specific areas such as the exercise of command responsibilities, planning, organization, interpersonal communications, problem solving, decisiveness, judgement, knowledge of aircraft systems performance, procedures, knowledge of and compliance with FARs and ATC procedures, sensitivity, leadership, assertiveness, smoothness and flying skill, work standards, and crew coordination.

If we left anything out of the above list, I challenge you to find it.

The working group wishes to stress that the above are important items of consideration, and instructors should be aware of and understand these factors which contribute to overall resource management. It has been said again and again that resource management is so important and will fit into the LOFT concept very well. We generated the categories as a checklist of resource management concerns.

Standardization of LOFT instructors- Standardization of LOFT instructors will be achieved if they are given a complete training program at the outset followed by periodic monitoring by supervisory personnel. Additionally, a feedback and critique program using flight crew members is essential if such a program is to work. Instructor standardization will be equally enhanced if LOFT instructors are urged to cross-monitor other LOFT instructors. Standardization could be more easily achieved if the LOFT instructor group is small and work almost exclusively on the LOFT program if practical. We felt that LOFT should never be conducted by anyone other than a properly qualified LOFT instructor, but that the LOFT instructor could perform other functions within a training department if necessary. Regularly scheduled instructor standardization meetings should be scheduled. During these sessions, LOFT scenarios that are presently being used can be assessed and reevaluated for improvement.

Other uses of full-mission simulation- Following is a list of other uses:

- o Transition training, or initial training.
- o Developing familiarity with special airports listed in AC 121.445.
- o As a format for check flights.
- o Remedial training for problem pilots.
- o Special training areas, such as command and leadership training.
- o Wind shear problems.
- o Accident and incident investigations.
- o A new-hire's introduction to communications, clearances, checklist duties, and real-time simulated routes.

- o To evaluate cockpit controls and flight instruments, and the assessment of human factors in the cockpit.
- o First officer training, such as VFR approach and departure techniques, traffic patterns and so on.
- o Fuel management and assessment.
- o Developing techniques and procedures.
- o The development of takeoff and landing skills.
- o For accident and incident scenario reviews.
- o Engine-out ferry training and qualifications.
- o Pre-mission reviews for special operations.
- o Special aerodynamic training, high altitude stalls, and other controlled problem training.

Discussion

MR THIELKE: Ron, I have a question with regard to the qualifications of instructors. I really do not believe that you can have an instructor assessing a crew who is not line-qualified and operational in that position. In other words, if you have a pilot check-airman evaluating a captain and first officer, monitoring and assessing their performance, I believe that person has to be line-qualified and fully operational. When I say operational, I mean being able to fly a bid trip.

CAPTAIN SESSA: We had considerable discussion on that point, and I think that you have to go back to what I said initially. Lets take United Air Lines as an example. They are presently conducting training utilizing a method contrary to what you said (utilizing non-line-qualified instructors), and we did not feel that we were in a position to say that that is wrong. That was the consensus of our group. By the same token, if your airline is not doing a certain thing, we would not say you ought to change it because there is a better way. A lot of these issues depend so heavily on how you have done something in the past. Have your pilots accepted the way you have been doing it? What are they used to? What are they comfortable with? And, has your method has been successful? The answers to all of those questions are fairly obvious. They have been succesful in the way they have been conducting training, as have others in the way they have conducted training. I think that that is the most important factor. What have you been doing and have you been successful at it?

MR. THIELKE: I guess my whole point is that we are convened here to talk about LOFT. If we are going to make it realistic line-oriented flight training, I feel that regardless of whether one airline does it one way and another a different way, the instructors should be line-qualified and operational. If you have a three-man crew you should have two instructors. Refer to your own laundry list which you said was all-encompassing. I believe one of your items was "smoothness and flying practice." You can have interpersonal skills, wind shear training, and the whole bit, but if you do not have the flying practice, I believe the evaluator cannot evaluate properly.

CAPTAIN SESSA: Back to your point about line qualifications. Maybe we did not articulate very well what the non-line-qualified instructor must go through to be qualified to give this type of training. In the first place, if you become an instructor, you are either a professional instructor, or you have a medical problem and cannot fly the line. In any event, he has been around a long time and is an experienced instructor and pilot with an appropriate background. We then send him through an entire training program, which is to say right up until the point that he is to get a type-rating for the aircraft. However, in this case, he cannot go to the airplane because he cannot hold a medical certificate. In lieu of that, we run him through four hours of LOFT or whatever it takes. In addition to that, he goes through initial and ground training and flying LOFT trips. You are flying the line trips that you are going to be teaching, but you are flying them in the simulator. We are using LOFT to make a LOFT instructor out of him. The bottom line is that he becomes a LOFT instructor only when a degree of proficiency and expertise has been reached. You must go out on the line. We talked about jumpseat riding on three typical line segments per 90 days. We had a hard time putting an actual amount of time on that, but we felt that that was a good place to start. I don't know if that changes your opinion or not, but I do want you to know that we did try to address that question in a manner that would produce an instructor that was qualified to give a LOFT session.

MR. THIELKE: No that does not change my opinion.

CAPTAIN MICHAELS: Ron, do I understand you to say that your group is recommending that grounded airline pilots be used in the capacity of LOFT instructors?

CAPTAIN SESSA: No we didn't recommend anything. We just said that in cases where they are utilized today, that there is no reason why they could not be utilized if given the proper training and qualifications.

CAPTAIN MICHAELS: I personally would feel more comfortable if this were outlined a little more specifically, and John (Lauber), I am directing this mainly toward you. I am going to make a statement, and then I would like to ask Ron a question.

Without the line background, the airline flying background, I would question the ability of an instructor to distinguish the relative importance of various occurrences in a flight. Things can happen that are relatively unimportant, while at other times they can be extremely important. I would also question the ability of an instructor without a line flying background, to evaluate the needs of a crew. He cannot have the same frame of reference. And, I would also question the credibility of that instructor with crews; credibility is based on line experience, and I think credibility is an important consideration because of the importance of the debriefing. The debriefing is the only thing that ties it all together. I feel that these are very important considerations. If you are going to say that line qualification is not necessarily a requirement, then I certainly think that you should say that line qualification at some time in the past is a very very important qualification. At least, that man will have some frame of reference to rely upon.

Now, the question. Was your group recommendation a consensus opinion? Was it a majority opinion, or was there any dissent among your group when you were considering instructor qualifications?

CAPTAIN SESSA: I'm not going to tell you. (Laughter) I think that your point about former line qualification and the background of the individual is one well taken and one that was addressed. I do not know if I can speak with any degree of expertise on the backgrounds of people who exist in the industry. Our airline has only two such individuals. One is medically retired from our airline, and the other is medically retired from Pan Am. I have no other information about what others do, so it would be hard for me to speak on that.

CAPTAIN CAVANAGH: I recognize that we are the only carrier present using a single professional instructor, and I appreciate the consideration that was given to us in all the discussion that has gone on. If you were not in that posture, I think that we would probably have finished a half a day sooner. I think that is apparent and that we all agree that the qualifications of the instructor are very important. I would also agree that if a man has had experience on your airline as a line pilot, and that he leaves the line tomorrow because he lost his ticket, in that case we have certainly overcome a large measure of qualification training that is otherwise essential. You say line qualification, what is line qualification? Ron cited an example of an instructor who had no line experience on his airline. We have four instructors who came to us 20 years ago

from Philippine Airlines. They were Americans who were line captains when the Philippines decided to nationalize their operation and take all foreign nationals out. Is that line qualification? I will not attempt to answer that, and I don't know if anyone else here would want to. Nonetheless, all I'm suggesting is that there are various ways to employ line qualification. I think it is certainly useful, but I do not think that it is essential. Once such people are trained, their thinking does have to be line-oriented. They have to react in a manner which you as a line-pilot accept and respect. We have some in our group who are very well respected, and I'm going to be very candid; we have a couple of others, who because of aging and deterioration are probably less competent and less respected. However, even with line-qualified pilots, this can occur. I think it is important to say, "What have you done for me today."

CAPTAIN MICHAELS: How do you intend to handle this question, John?

DR. LAUBER: I'm not going to tell you. (Laughter) I am not sure yet Jim. What I am trying to do is sense where there is agreement, and I think there in some sense. I think there is a way to express what Dale is saying and what Ron is saying. For example, I think one area that everyone can agree upon is that if you are using an instructor in a LOFT operation who does not routinely fly the line, then some special training or special effort is required in order to bring that individual up to speed for LOFT operations. I do not think that there is any disagreement about that statement. We are going to look through these reports, take the materials that have been presented, and try to generate an accurate reflection of what the working groups have submitted as their recommendations. In addition to that, the proceedings of our general sessions will accurately reflect the questions and differences of opinion that might exist.

CAPTAIN MICHAELS: John, quite frankly, I am concerned that while all of us here will understand exactly what is being implied, someone taking the report and reading it may not. Without the benefit of these discussions, they may interpret "non-line-qualified" more literally, and that frightens me.

DR. LAUBER: Yes, I share your concern. We will take these working group reports and do a major job of rewriting them. When we send a draft out for review, you are all going to have to take a close look at what we have done with what was submitted in order to make sure that the people who are not in attendance here will get the same sense of what this group felt. It is going to be a challenge to put this material together in that way, but all I can say is that everyone will have an opportunity to review what we have done.

MR. EDMUNDS: In regard to your working group recommendation that individual airlines should have the flexibility to use an instructor or a check-airmen in a LOFT training session, I will agree with that basically. I do think it needs to be qualified somewhat. One of the recommendations that we came up with in our group was that a flight crew should not be exposed to a LOFT scenario that they have previously flown for a second time, and I think that the same thing applies to an instructor. If an instructor is substituting for a crew member, and he has already flown the scenario or even served as the instructor in it, that could influence the training effectiveness of that session.

CAPTAIN SESSA: Yes. We addressed that issue in our discussions about instructors or others occupying seats, but we were not really charged with that in our report so we did not formally make any recommendations about that issue.

CAPTAIN CAVANAGH: Bill, I don't think that there is an easy solution that would be acceptable to everyone, but I recognize the reservations you have expressed. We envisioned a situation where you have scheduled a LOFT with a full line-crew, and when the time comes, one of the crew members is ill. Now you are faced with a situation of cancelling the session or continuing with a fill-in crew member, or I guess you could revert to the standard "batting practice" type of training. I don't think that there is unanimous agreement, but we did develop a consensus within our group when we discussed crew composition. While perhaps not ideal, that was to put a line-qualified crewman in that spot. You cannot remove all of the problems, but if he is, at least, competent to fill that seat, can fill it and does fill it on the line, then it is better than cancelling the session and losing all the other benefits even though these benefits are not as great in a situation where you have to substitute someone else.

CAPTAIN SESSA: I agree with that position, and I feel that airlines should have that flexibility, but I believe it should be watched very carefully. If you get someone who is familiar with that scenario, the training value is diminished. However, if that is your only option, it might be better to substitute such a person.

CAPTAIN NUNN: I would like to comment on the use of non-line-qualified instructors. Dale was very kind to take the burden on his shoulders that United is the only carrier utilizing that method in training. While it is true that they are the only ones here representing that method, I can think of three other carriers that also fit United's profile. NASA has done an excellent job of selecting participants for this workshop and in the composition of the working groups so that all viewpoints could be adequately represented. I believe that the problems of

carriers who are not here are being considered fairly. I think we should all go on record giving NASA and the staff here our vote of gratitude for the very excellent job they have done in structuring this workshop. We have achieved the exchange of views in a very effective way. (Applause from the group)

DR. LAUBER: Thank you, Tom. We have had lots of help and guidance from many of the participants. I hope we have achieved what you have suggested, that is representing not only the views of those who are here, but all the others as well. We have tried to do that.

CAPTAIN BEACH: I would like to say something in support of what Jim Michaels said. Anyone who has been in the instructor business for very long understands the importance of credibility with the trainees to the effectiveness of the training. I would like to offer an opinion that anyone used as an instructor in line-oriented flight training should at least have been line-qualified at one time. That does not preclude carriers from using medically-retired personnel as LOFT instructors provided that some kind of program keeps them current in line-type problems. I feel it is imperative that when a crew comes in for training, they know that the people from whom they are receiving it know what they are talking about.